

CLAIMS

1 1. A method of compressing data, comprising the step of approximating said
2 data using Chebyshev polynomials.

1 2. The method of claim 1, further comprising the step of:
2 dividing said data into data blocks of a predetermined size, to form matrices
3 corresponding to each data block; and
4 transforming the data in each matrix using Chebyshev polynomials to form
5 corresponding matrices of Chebyshev coefficients.

1 3. The method of claim 2, further comprising the step of:
2 thresholding the Chebyshev coefficients in each matrix to retain in each matrix
3 only Chebyshev coefficients that are of a predetermined value.

1 4. The method of claim 3, further comprising the step of:
2 quantizing said Chebyshev coefficient matrices to create a compressed data block
3 corresponding to each of said data blocks.

1 5. The method of claim 4, further comprising the step of:
2 creating control words for each of said compressed data blocks, said control
3 enabling decompression of said compressed data blocks in proper sequence.

1 6. The method of claim 5, wherein said quantizing step comprises at least the step
2 of:
3 performing floating point quantization on said Chebyshev coefficient matrices.

1 7. The method of claim 5, wherein said quantizing step comprises at least the step
2 of:
3 performing inverse hyperbolic sine compander quantization on said Chebyshev
4 coefficient matrices.

1 8. The method of claim 5, further comprising the step of:
2 losslessly compressing said control words.

1 9. The method of claim 8, further comprising the steps of:
2 transmitting said compressed data blocks and said compressed control words to a
3 receiver;
4 decoding said compressed control words and compressed data blocks; and
5 performing block artifact reduction on said decoded data blocks.

1 10. A system of compressing data, comprising means for approximating said data
2 using Chebyshev polynomials.

1 11. The system of claim 10, further comprising:
2 means for dividing said data into data blocks of a predetermined size, to form
3 matrices corresponding to each data block; and
4 means for transforming the data in each matrix using Chebyshev polynomials to
5 form corresponding matrices of Chebyshev coefficients.

1 12. The system of claim 11, further comprising:
2 means for thresholding the Chebyshev coefficients in each matrix to retain in each
3 matrix only Chebyshev coefficients that are of a predetermined value.

1 13. The system of claim 12, further comprising:
2 means for quantizing said Chebyshev coefficient matrices to create a compressed
3 data block corresponding to each of said data blocks.

1 14. The system of claim 13, further comprising:
2 means for creating control words for each of said compressed data blocks, said
3 control enabling decompression of said compressed data blocks in proper sequence.

1 15. The system of claim 14, wherein said means for quantizing comprises:
2 means for performing floating point quantization on said Chebyshev coefficient
3 matrices.

1 16. The system of claim 14, wherein said means for quantizing comprises:
2 means for performing inverse hyperbolic sine compander quantization on said
3 Chebyshev coefficient matrices.

1 17. The system of claim 14, further comprising:
2 means for losslessly compressing said control words.

1 18. The system of claim 17, further comprising:
2 means for transmitting said compressed data blocks and said compressed control
3 words to a receiver;
4 means for decoding said compressed control words and compressed data blocks;
5 and
6 means for performing block artifact reduction on said decoded data blocks.

1 19. A computer program product recorded on computer readable medium for
2 compressing data, comprising computer readable means for approximating said data
3 using Chebyshev polynomials.

1 20. The computer program product of claim 19, further comprising:
2 computer readable means for dividing said data into data blocks of a
3 predetermined size, to form matrices corresponding to each data block; and
4 computer readable means for transforming the data in each matrix using
5 Chebyshev polynomials to form corresponding matrices of Chebyshev coefficients.

1 21. The computer program product of claim 20, further comprising:
2 computer readable means for thresholding the Chebyshev coefficients in each
3 matrix to retain in each matrix only Chebyshev coefficients that are of a predetermined
4 value.

1 22. The computer program product of claim 21, further comprising:
2 computer readable means for quantizing said Chebyshev coefficient matrices to
3 create a compressed data block corresponding to each of said data blocks.

1 23. The computer program product of claim 22, further comprising:
2 computer readable means for creating control words for each of said compressed
3 data blocks, said control enabling decompression of said compressed data blocks in
4 proper sequence.

1 24. The computer program product of claim 23, wherein said computer readable
2 means for quantizing comprises:
3 computer readable means for performing floating point quantization on said
4 Chebyshev coefficient matrices.

1 25. The computer program product of claim 23, wherein said computer readable
2 means for quantizing comprises:
3 computer readable means for performing inverse hyperbolic sine compander
4 quantization on said Chebyshev coefficient matrices.

1 26. The computer program product of claim 23, further comprising:
2 computer readable means for losslessly compressing said control words.

1 27. The computer program product of claim 26, further comprising:
2 computer readable means for transmitting said compressed data blocks and said
3 compressed control words to a receiver;
4 computer readable means for decoding said compressed control words and
5 compressed data blocks; and
6 computer readable means for performing block artifact reduction on said decoded
7 data blocks.

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1 28. The method of claim 1, wherein said data comprises time-series data.

1 29. The system of claim 10, wherein said data comprises time-series data.

1 30. The computer program product of claim 19, wherein said data comprises
2 time-series data.